

INFORMATION REPORT INFORMATION REPORT

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COUNTRY Poland

REPORT

SUBJECT Gas Industry in Poland: Organization and General Information

DATE DISTR.

7 DEC 1959

NO. PAGES

27

REFERENCES

DATE OF INFO.

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PLACE & DATE ACQ.

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

2. The following charts, mentioned in the report as Annex B, C, D, and E respectively,

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- Annex B: Major Gas Pipelines in Poland
 Annex C: Major Natural Gas Pipeline Subordinate to the Tarnow District Gas Works
 Annex D: Major Coal Gas Pipelines Subordinate to the Zabrze District Gas Works
 Annex E: Major Coal Gas Pipelines Subordinate to the Walbrzych District Gas Works

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ARMY review completed.

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STATE	#X	ARMY	#X	NAVY	#X	AIR	#X	FBI		AEC				
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REPORT

COUNTRY Poland

DATE DISTR. 17 Nov. 1959

SUBJECT Gas Industry in Poland:
Organization and General Information

NO. OF PAGES 30

DATE OF INFORMATION

REFERENCES:

50X1-HUM

PLACE ACQUIRED

THIS IS UNEVALUATED INFORMATION

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THE GAS INDUSTRY IN POLAND: ORGANIZATION AND GENERAL INFORMATION (C)

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THE GAS INDUSTRY IN POLAND: ORGANIZATION AND GENERAL INFORMATION (C)

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Introduction

Listed below are the names and geographic coordinates and UTM coordinates of locations used throughout this report. Coordinates are not shown for well-known locations.

<u>Location</u>	<u>Geographic</u>	<u>UTM</u>
BIELSKO (BIALA)	N49-49, E19-02	GA-6020
BORYSLAW (BORISLAV), USSR	N49-17, E23-25	Not Available
DABROWA TARNOWSKA	N50-11, E20-59	DA-9958
DASZAWA (DASHAVA), USSR	N49-15, E24-01	Not Available
DROGOBYCZ (DROHOBYCH), USSR	N49-20, 23-30	Not Available
ELBLAG	N54-10, E19-23	CF-9225
GRODKOW (GROTTKAU)	N50-42, E17-23	XS-6819
GUBIN (GUBEN)	N51-57, E14-43	VT-8056
JAROSLAW	N50-01, E22-40	FA-2042
KONSKIE	N51-12, E20-25	DB-5971
KOSZALIN (KOSKIN)	N54-12, E16-11	WA-7706
KROSNO	N49-42, E21-46	EA-5505
KRYNICA	N49-26, E20-59	EV-9774
LABENDY	N50-20, E18-37	GA-3180
LESKO	N49-27, E22-19	EV-9581
LUBACZOW	N50-09, E23-07	FA-5259

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MYSLOWICE	N50-14, E19-08	CA-6767
OSTROLEKA	N53-05, E21-34	ED-3882
PIOTRKOW	N51-24, E19-41	CB-0997
PISZ (JOHANNISBURG)	N53-38, E21-48	EE-5343
RAWICZ	N51-36, E16-51	XT-2919
ROSTOKI	N49-44, E21-31	EA-3911
SANOK	N49-34, E22-12	EV-8719
SOSNOWIEC	N50-19, E19-08	CA-6774
STARACHOCINA	N49-37, E27-03	EV-7897
SUCHA	N49-44, E19-36	CA-9811
TUREK	N52-02, E18-30	GC-2866
TARNOW	N50-00, E21-00	DA-9940
USTRZYKI	N49-46, E22-35	FV-1677
WALBRZYCH (WALDENBURG)	N50-46, E16-17	WS-9025
ZABLOTCE	N49-34, E22-10	EV-8492
ZABRZE (HINDENBURG)	N50-19, E18-37	CA-4275
ZDZIESZOWICE (ODERTAL)	N50-25, E18-07	BB-9589
ZURAWICA	N49-49, E22-48	FA-305205

A. ORGANIZATION OF THE GAS INDUSTRY IN POLAND

1. Organization Within the Ministry of Heavy Industry (See Annex A)

The Polish gas industry was controlled by the Ministry of Heavy Industry (Ministerstwo Przemyslu Giezkiego - MPG), on ulica Wilcza in WARSAW, headed by Vice Minister KAIM. There were three main departments by means of which the MPG directed the Polish Gas Industry: By-Product Coke and Gas Department, State Gas Inspection Department, and Metallurgical Department.

a. By-Product Coke and Gas Department (See Annex A-1)

The By-Product Coke and Gas Department (Departament Przemyslu Koksochemicznego i Gazowego), directly subordinate to the Office of the Vice Minister of the Ministry of Heavy Industry, was responsible for the Polish gas industry. Engineer KOBOS, (fnu), of this department had the last word on all matters pertaining to the gas industry.

(1) Association of the Gas Industry (See Annex A-2)(a) Location

The Association of the Gas Industry (Zjednoczenie Przemyslu Gazowniczego - ZPG) was on the fourth and fifth floors of a 7-story building at 12-14 ulica Krucza, WARSAW. There were 8 to 10 enterprises in the building; the

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name of each was written in big letters near the front door of the building.

This was a stuccoed cream-colored building and its windows were trimmed in red.

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(b) Mission

The mission of the ZPG was to maintain administrative control and offer technical assistance for gas distribution in Poland. Specifically, it controlled the administration of all subordinate agencies, provided technical advice and assistance for them (although it was not to interfere in the operational affairs of the individual gasworks or any other part of the gas industry), controlled the fulfillment of production plans, coordinated the major repair of all equipment, checked the technical condition of all plants and factories, and planned and controlled all new construction work, the employment of workers, the amount of pay workers received, and the cost of gas. In addition, it made sure that all plants followed fire safety rules.

(c) Administrative Organization of the Association of the Gas Industry

ZPG was directly subordinate to the By-Product Coke and Gas Department of the MPC. (See Annex A-1)

ZPG was called the Central Administration of the Gas Industry (Centralny Zarząd Przemysłu Gazowniczego) until late December 1958 or early January 1959, when it was reorganized and renamed. This change came about because the Central Administration of the Gas Industry interfered too much in the functional affairs of its subordinate agencies, employed too many people (about 200), and had a payroll that was too large. This change was very good for the gas industry; after this change, the ZPG did not interfere in the internal affairs of its subordinate agencies; it only offered them advice. This improved morale and increased production. The number of employees was reduced to about 80, and so the payroll decreased.

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The director (dyrektor) was Adam EPSZTAJN; the first deputy director (pierwszy zastępca dyrektora) was Jan KŁOSIŃSKI; and the second deputy director (drugi zastępca dyrektora) was PEŁCZAR, (fnu). The director and the first deputy director had adjoining offices connected by a combination reception room and secretary's office. One secretary, (nu)(female), worked for the director and the first deputy director. The first deputy director was also known as the chief engineer and was responsible for all technical matters. The second deputy director was responsible for all administrative matters.

The branches in the ZPG were in three categories - those which were subordinate to the office of the director, those which were subordinate to the office of the first deputy director, and those subordinate to the office of the second deputy director (see Annex A-2).

1. Branches Subordinate to the Office of the Director

a. Personnel Branch (Dział Personalny)

PICHEJDA, (fnu), chief of the branch, and two others were employed in this office, which kept personnel records on all employees in the ZPG and maintained a card file containing background information on each employee in the gas industry under its administrative control, including information as to whether an employee was a Communist Party member or not.

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b. Main Bookkeeping Branch (Dzial Glownego Ksiegowego)

Fifteen persons (mostly women) were employed in this branch, including the chief, PIECHOWICZ, (fnu). This office took care of all bookkeeping for the ZPG, including the disbursement of funds for payrolls, construction, expansion, and maintenance and receipts of money from the sale of gas.

c. Planning Branch (Dzial Planowania) 50X1-HUM

The chief, JANICKI, (fnu), and five others were employed in this branch. It made future plans for the amount of gas that would be distributed and determined its cost, and it planned all phases of future construction, including type, cost, and starting and completion dates. It also made wage scales for employees and planned future trends in employment.

d. Employment Branch (Dzial Zatrudnienia)

Six people were employed in this branch, including the chief, KALICKI, (fnu). It controlled the employment of workers and maintained records, by job title, indicating the number of workers filling positions throughout the industry under its administrative control. It was also responsible for making sure that employees received no more pay than that listed.

e. Factory Council (Rada Zakladowa)

The chief, (nu), and one other person worked in this branch, which was responsible for protecting the workers' rights in ZPG. It handled all workers' grievances pertaining to pay, vacations, personnel problems, and other working conditions.

2. Branches Subordinate to the First Deputy Director

a. Production Branch (Dzial Produkcji)

There were about five employees (nu) in addition to the chief, Engineer PIATKOWSKI, (fnu). This branch controlled the fulfillment of monthly and yearly work norms for construction and production by maintaining records of assigned work norms for each subordinate facility and checking to see that these norms were fulfilled. When a subordinate agency of ZPG failed to fulfill its norms, PIATKOWSKI sent an inspector to find out why.

b. Chief Mechanics Branch (Dzial Glownego Mechanika)

There were five master mechanics (nu) and a chief, Engineer STASZKIEWICZ, (fnu), employed in this branch. These mechanics were considered the best in the gas industry. They gave technical advice whenever the mechanics in the gas works encountered a problem they could not handle. One of these mechanics had to be on hand whenever a new piece of equipment, such as a compressor, was put into operation at any location.

c. Investments Branch (Dzial Inwestycji)

There were six people in this branch, including the chief, Engineer SZPAKOWSKI, (fnu), a woman. This branch was responsible for making cost estimates for planned future projects. On the basis of the plans for future projects, they determined the priority for realization of the projects, made a

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tentative plan for allocation of funds, and evaluated each project for practicability of investment.

d. Research Bureau (Biuro Studiow)

Six people were employed here, including the chief, Engineer TYSOWSKI, (fnu). This branch planned the development of the gas industry under its administrative control for as many as 15 years in advance. It had to figure the increase in gas distribution to meet the demands of industrial expansion. The branch was not concerned with what funds would be available; it made its estimates purely on need.

e. Fire Prevention Branch (Dzial Ochrony Przeciwpozarowej)

Two people worked in this office, including the chief, (nu). This branch was responsible for personally making inspections to insure that all fire regulations were being followed in all parts of the gas industry under its administrative control and for making on-the-spot corrections upon observing fire violations. Each gasworks had in its possession a list of fire regulations it was supposed to follow. These regulations, when approved by this branch office, became mandatory and formed the basis on which inspections were carried out.

f. Accident Prevention Branch (Dzial Bezpieczenstwa Pracy)

Two people worked in this branch, including the chief, (nu). This office was responsible for personally making inspections to insure that all safety regulations were being followed, and for making on-the-spot corrections when observing safety violations. Safety regulations were posted in all installations subordinate to the ZPG. Safety regulations were made by the Ministry of Public Health (Ministerstwo Zdrowia) and the Ministry of Labor (Ministerstwo Pracy).

2. Branches Subordinate to the Second Deputy Director

a. Administrative Branch (Dzial Administracyjny) 50X1-HUM

Three or four women, (nu), worked in this branch, which handled all incoming and outgoing correspondence, whether classified or unclassified. These women could handle classified correspondence but could not open it. Such correspondence had to be taken directly to the director or, in his absence, to the first deputy director. If both were absent, it could be taken to the second deputy director. [] two types of classified material, Secret (Tajne) and Confidential (Poufne). Each piece of classified material received by the administrative branch already had the classification stamped on the envelope. The classification Secret was always stamped in red, and the classification Confidential was stamped in violet. On the back of each classified envelope there was a seal, always placed over the triangular flap of the envelope so that the recipient could see whether it had been opened. The woman in charge of the administrative branch was responsible for the safekeeping of classified material, a record of which she kept in a log. She had the keys to the classified room and to the safe in that room. The room was on the fourth floor of the building. Its door was covered with sheet metal and had two locks. There was one ordinary window with no special lock or bars. If the room had been on the first floor, it would have had bars on the window. The safe in the room was opened by key and was not a numbered dial type. There were three locks on the safe, one on top and one on the bottom, which were opened by the same key, and one in the center of the safe, which was opened by a special key.

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b. Supply Branch (Dzial Zaopatrzenia)

Eight people worked in this branch, including the chief, (nu). This branch received requisitions for supplies for the forthcoming year from all parts of the gas industry under its administrative control. All requisitions were consolidated into one large requisition and submitted to MPC. The branch had to coordinate with its subordinates and come to an agreement whenever a requisition seemed excessive. It also distributed supply credits based on the percent of the consolidated requisition approved.

g. Purchasing Branch for Imported Machines (Dzial Zakupu Maszyn z Importu)

Three people worked in this branch, including the chief, Engineer JAKOBOWSKI, (fnu). The other two employees were women, (nu). This branch received requisitions for new machines that were to be imported, consolidated them, and forwarded them to MPC. It also kept a record of the type and quality of imported machines being used by each gasworks.

d. Transportation Branch (Dzial Transportowy)

Two or three people worked in this branch, including the chief, (nu). This branch received requisitions for domestically-produced vehicles from all the gasworks. All requisitions were consolidated into one and sent to the MPC. This branch also made inspections to insure that no gasworks had more than the authorized number of vehicles. If any had more than authorized or needed, this was reported to the director of ZPG, who recommended that the extras be sent to gasworks which were short of vehicles.

e. Social Branch (Dzial Socjalny)

Two people worked in this branch, including the director, (nu). This branch was responsible for social affairs; for example, it made certain that children under 16 were not employed, that women did not lift anything heavier than 15 kg, that workers received their vacations, that pregnant women received a 3-month vacation (usually 1½ months before and 1½ months after delivery), and provided general welfare service for the workers.

(d) Agencies Subordinate to the Association of the Gas Industry

1. Tarnow District Gasworks 2.

The Polish gas pipeline network was divided into three parts. Annex B shows all the major high pressure gas pipelines in Poland; Annex C shows those which are subordinate to the Tarnow District Gasworks (Zaklady Gazownictwa Okregu Tarnowskiego).

The Tarnow District Gasworks was directly subordinate to the ZPG (see Annex A-1). Its mission was to receive natural gas from the Ustrzyki, Sanko, and Krosno oil well enterprises, import natural gas from the USSR, and distribute it to consumers. It was also responsible for taking care of the repair, maintenance, and conservation of all gas equipment under its jurisdiction. All the major natural gas pipelines shown in Annex C were its responsibility, except the major gas pipeline from MYSLOWICE to GLIWICE, which was the responsibility of the Zabrze District Gasworks. 3. In both Annexes B and C the internal diameter of each pipeline is shown; whenever any pipeline could possibly be of a different diameter, a second figure is shown in parentheses.

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Although this gasworks was responsible for almost all natural gas pipelines of the Polish gas pipeline network, it was not responsible for drilling the shafts to the natural gas deposits. This was the responsibility of the Central Administration of the Petroleum Industry (Centralny Zarząd Przemysłu Naftowego - CZPN), which was directly subordinate to the Ministry of Mining and Power.

2. Zabrze District Gasworks 2.

The Zabrze District Gasworks (Zakłady Gazownictwa Okregu Zabrzanskiego) was subordinate to ZPG.

All the major coal gas pipelines shown in Annex D were its responsibility; this gasworks, however, did not produce any gas.

Its mission was to receive surplus gas from coke plants, purify it, distribute it to consumers, and to take care of the repairs, maintenance, and conservation of all gas equipment under its jurisdiction.

It bought coal gas from coke plants directly subordinate to the Central Administration of the Metallurgical Industry (Centralny Zarząd Przemysłu Hutniczego - CZPH). Coke plants produced gas primarily for steel works and sold surplus gas.

3. Walbrzych District Gasworks 2.

The Walbrzych District Gasworks (Zakłady Gazownictwa Okregu Walbrzanskiego) was directly subordinate to ZPG.

All the major gas pipelines, the oldest in the network, which are shown in Annex E, were its responsibility; it did not, however, produce any gas. 4. It bought coal gas from coke plants that were directly subordinate to CZPH.

Its mission was the same as that of the Zabrze District Gasworks (par A.1.a.(1)(d)2.), and in addition it was responsible for exporting gas to East Germany.

4. City Gasworks 5.

There were eight major city gasworks: The Warsaw City Gasworks (Zakłady Gazownictwa Okregu Warszawskiego - ZGOW); Poznan City Gasworks (Zakłady Gazownictwa Okregu Poznanskiego - ZGOP); Gdansk City Gasworks (Zakłady Gazownictwa Okregu Gdanskiego - ZGOG); Bydgoszcz City Gasworks (Zakłady Gazownictwa Okregu Bydgoskiego - ZGOB); Wroclaw (Breslau) City Gasworks (Zakłady Gazownictwa Okregu Wroclawskiego - ZGOW); Krakow City Gasworks (Zakłady Gazownictwa Okregu Krakowskiego - ZGOK); Szczecin City Gasworks (Zakłady Gazownictwa Okregu Szczecinskiego - ZGOS); and the Lodz City Gasworks (Zakłady Gazownictwa Okregu Lodzkiego - ZGOL). They were all directly subordinate to the ZPG (see Annex A-1). Each was charged with the mission of purifying, producing, and distributing gas for small factories and homes and for lighting in its own cities and in some cases for other small surrounding cities. Each took care of maintenance, repair, and conservation of all gas equipment under its jurisdiction.

In addition to the above eight city gasworks, there were other smaller city gasworks which produced and distributed gas locally and were subordinate to the City National Councils (Miejskie Rady Narodowe), which in turn

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were subordinate to the Ministry of Municipal Economy (Ministerstwo Gospodarki Komunalnej).

5. Gazoprojekt-Project Bureau for the Gas Industry (Biuro Projektow Gazowniczych - Gazoprojekt) 2.

This bureau was responsible for drafting all plans for new construction work, such as the building of new purifying stations, compressor stations, and the laying of new gas pipelines. It was directly subordinate to ZPG.

6. Gazobudowa - State Enterprise for the Construction of Gas Equipment (Panstwowe Przedsiębiorstwo Budowy Urzadzen Gazowniczych - PPBUG) 2.

This enterprise was directly subordinate to the ZPG. It laid high-pressure gas pipelines for the entire country. About 60 percent of the high-pressure gas pipelines were laid after World War II, the rest, either before 50X1-HUM or during the war. All were in good condition, but those laid since the war were better constructed and could be expected to last longer.

they were supposed to start laying oil pipelines in 1960 (exact date unknown). One of these was to run from the USSR through Poland to East Germany; another was to join this and go through Czechoslovakia to Hungary. 6. The diameter of these oil pipelines was to be 500 mm. the exact route of these pipelines was to be, the State Enterprise for the Construction of Gas Equipment was to lay only the portion of the line within 50X1-HUM the borders of Poland.

In general, maintenance of gas pipelines was good, but it could have been better had more engineers been available. The reason for the shortage of engineers in the gas industry was the low pay they received in comparison to other fields of industry. 7.

This enterprise was responsible for the construction of purifying, gas filling, and reduction and measuring stations.

a. Purifying Stations 2.

About 75 percent of the gas purifying stations in Poland were new, having been built since World War II. The others were built during or before the war. All were in good condition. These purifying stations removed hydrogen sulfide from gas, using the old Boschhoff or Pintsch dry methods.

b. Gas Filling Stations

There were 16 gas filling stations in Poland, all built since World War II and in good condition. Each filling station consisted of a compressor station, a natural gas storage station, and a natural gas dispensing station. The natural gas used by these stations was transported by pipeline from the major natural gas pipeline to the compressor station. From there it was transported by pipeline to the natural gas storage station, where it was stored in gas bottles. The gas was then piped to gas dispensing stations, where it was dispensed into the gas bottles on vehicles. This gas was burned in vehicles like gasoline.

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g. Reducing and Measuring Station 2.

About 90 percent of the reducing and measuring stations were built after World War II, the other 10 percent before or during the war. All were in good condition. Generally, the equipment for these stations was produced in Poland.

7. Piecobudowa - State Enterprise for the Construction of Gas Furnaces (Panstwowe Przedsiębiorstwo Budowy Pieców Gazowniczych - Piecobudowa - PPBPG) 2.

This enterprise was responsible for the construction of gas furnaces used in producing coal gas. It was directly subordinate to ZPG.

8. Rawicz State Enterprise - Gas Equipment Factory (Panstwowe Przedsiębiorstwo - Fabryka Urządzeń Gazowniczych - Rawicz PPFUG) 2.

This enterprise at RAWICZ was a factory manufacturing gas equipment of pig iron such as valves, the upper and lower doors of gas furnaces, and reducers. It was directly subordinate to ZPG. There were other factories that manufactured gas equipment, but they were not subordinate to ZPG.

b. State Gas Inspection Department (Panstwowa Inspekcja Gazownicza - FIG)
(See Annex A-3)

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(1) Location

The State Gas Inspection Department occupied about five offices on the fourth floor of the building at 12-14 ulica Krucza, WARSAW, where ZPG had part of its offices also (see par A.1.a.(1)(a)).

(2) Mission

The State Gas Inspection Department made inspections to insure that all construction work for the gas industry was done according to plans and regulations, that all coke plants were producing as much gas as they were capable of producing, and that consumers were using gas properly so that none was wasted. It was also responsible for checking all construction work as soon as it was completed and for giving its approval of putting it into operation in the gas pipeline system. It also had to approve plans for future construction work before the work could begin.

It is important to note that FIG was directly subordinate to MPC and not to ZPG. Although ZPG had authority to approve all plans for new construction and set aside funds for it, such plans were subject to revision by FIG.

(3) Organization

Seven people, mostly engineers, worked for the director, STRZALKOWSKI, (fnu), and usually were sent out on inspections.

(a) Office of the Deputy Director (Zastępca Dyrektora)

This office contained only one person, the deputy director, (nu), a lawyer, who acted as a consultant on all legal matters referred to him by the area inspectors. When one of the inspectors had a legal matter to discuss, he took it directly to the deputy director, who advised him as to the course of action.

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that should be taken, and the inspector, in turn, would advise the appropriate agency.

(b) Secretariat (Sekretariat)

There was one secretary, (nu), in the secretariat, who worked as a private secretary for the director and the deputy director.

(c) File Room (Archiwum)

The secretary to the director and deputy director was responsible for the operation of the file room. She filed one copy of all correspondence and one copy of all construction plans in this room. All papers filed there were unclassified.

(d) Area Inspectors' Office (Inspektorzy Terenowi)

Four engineers worked in this office: Engineers REGULA, (fnu), PSARSKI, (fnu), KIESLER, (fnu), and a fourth, (nu). These four visited plants and factories which used gas to make sure that it was being used properly and was not being wasted. They also traveled to coke plants to make sure that they were producing as much gas as they were capable of producing. Frequently they inspected construction sites to see that the work was being done according to plans and regulations and checked these projects to see that gas could not escape. If, after the last inspection of such a construction project, all was satisfactory, a record was made showing the date of inspection, the results of the inspection, and the date the completed project could be put into operation.

(e) Part-Time Inspectors

There were part-time inspectors who were contracted to work for FIG. The best engineers in various gasworks throughout the country were contracted to do certain work on their own time and were paid for each job they were contracted to do.

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c. Metallurgical Department

(1) Central Administration of the Metallurgical Industry

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It was subordinate to the Metallurgical Department in MPC and it was on ulica Powstancow in KATOWICE. It was responsible for administrative and technical control of steel workers and coke plants. 8. Coke plants sold surplus coal gas to the Zabrze and Walbrzych District Gasworks. This is shown in Annex A.

(2) Coke Plants (Koksownia)

The coke plants produced coal gas primarily for the metallurgical industry; only surplus gas was sold to the Zabrze and Walbrzych District Gasworks.

About 50 percent of the coke plants had been built since World War II and the remaining 50 percent either before or during the war. All the plants were in good condition; however, the apparatus used in them to remove naphthalene from the gas was obsolete and inefficient. The naphthalene formed a hard crust on the inner surface of the pipelines and gradually reduced their diameter. 9. It also hampered the operation of compressors.

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During winter, a great deal of trouble was encountered with coal freezing in railroad cars while it was being transported to coke plants throughout the country. Steam had to be used to melt the ice so that the coal could be poured from the rail cars into underground bunkers. Most of the underground bunkers at coke plants were heated, but during severe freezes this did not prevent the coal from freezing in them. During such times, the production of coal gas was greatly reduced because there were not means to thaw the coal as fast as it was normally consumed. Larger bunkers were being built with covers so that the coal could be completely isolated from the elements, but, even in these bunkers, care had to be taken that the coal was dry before it was poured into them.

2. Organization Within the Ministry of Mining and Power (Annex A)

a. Oil Drilling Department

[redacted] the Central Administration of the Petroleum Industry (Centralny Zarzad Przemyslu Naftowego - CZPN). [redacted] it was subordinate to the Oil Drilling Department (Departament Kopalnictwa Naftowego) in the Ministry of Mining and Power (Ministerstwo Gornictwa i Energetyki - MGE) and that it was on ulica Lubicz in KRAKOW. [redacted] it was responsible for maintaining administrative control and for offering technical assistance to the Ustrzyki, Sanok, and Krosno oil well enterprises. 50X1-HUM

The primary interest of these three oil well enterprises was drilling oil wells. Whenever natural gas was found, the enterprise that drilled the shafts to the natural gas deposit set up a measuring and reduction station and sold gas to the Tarnow District Gas Works.

Although these three oil well enterprises drilled oil wells and the shafts to natural gas deposits, they did not do any geological exploration work; this was done by the State Enterprise for Geological Exploration Work (Panstwowe Przedsiębiorstwo Geologiczne Poszukiwawcze - PPGP).

b. State Enterprise for Geological Exploration Work

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The PPGP was responsible for searching for all types of valuable earth deposits and reporting its findings to the MGE. [redacted]

B. GENERAL INFORMATION ON THE GAS INDUSTRY IN POLAND

1. Pipeline Network

Poland produced chiefly two types of gas - natural and coal gas. There were also factories which produced blast furnace gas (about 6,000,000,000 cu m a year), but this gas was not transported in the gas pipeline system. It was used in coke plants for the production of coal gas.

In addition to the pipelines under the Tarnow District Gasworks (par A.1.a. (1)(d) 1.), the Zabrze District Gasworks (par A.1.a. (1)(d) 2.), and the Walbrzych District Gasworks (par A.1.a. (1)(d) 3.), there were two international pipelines in the Polish network: the first from DASHAWA, USSR, to PRZEMYSL, Poland, through which Poland received natural gas from the USSR; the second from ZGORZELEC (GORLITZ), Poland, to GORLITZ, East Germany, through which coal gas was transported from Poland to East Germany. Both of these international lines are shown in Annex B.

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2. Use of Gas Pipelines to Transport Liquid Fuel

[redacted] there was a plan to convert gas pipelines so that they might transport liquid fuel. 50X1-HUM

[redacted] a letter from the Polish Ministry of National Defense (Ministerstwo Obrony Narodowej - MON) requesting information about the possible use of coal gas pipelines for such a purpose. [redacted] the other two gasworks (Walbrzych and Tarnow) also received the same kind of letter. 50X1-HUM
50X1-HUM

[redacted] it was possible, in the event of necessity, for natural gas pipelines to be used to transport liquid fuel, such as oil or gasoline, but if this were done, enterprises using gas as raw material or for heat energy could no longer operate. In order to convert natural gas pipelines from transport of natural gas to liquid fuel, gas coming from the natural gas occurrences would have to be cut off; the valves in all pipelines going to consumers of natural gas would have to be closed; several gas discharge valves would have to be opened to allow the gas in the pipelines to escape, then closed; and pumping units would have to be positioned at various points along the pipeline to keep the liquid fuel flowing. These pumping units could be positioned very quickly if they were already mounted on vehicles, and the pumping unit crews knew in advance where the units were to be positioned [redacted]

After the pumping units had gone into operation, the liquid fuel could be obtained at any one of the underground enclosures housing a main-line valve, and two gas-discharge valves. These enclosures were normally 6 km apart. A sketch of one of these enclosures is shown in Annex F. [redacted] natural gas pipelines could be converted to transport liquid fuel within 8 hours with proper planning and organization. 10. 50X1-HUM

Coal gas pipelines could also be used to transport liquid fuel; however, this would be more difficult because coal gas pipelines contained a great deal of naphthalene that could mix with the liquid fuel. The only way coal gas pipelines could be used for this purpose would be if crude oil were pumped into the lines and then refined at the receiving points. This would necessitate taking the liquid fuel from the pipelines at a point where it could be refined and at no other place.

3. Standards of Design and Construction of Gas Pipelines

All gas pipelines and their parts, such as valves, traps, flanges, bolts, and gaskets, were standard. This was also true for the anticorrosive material used on the lines. All other equipment was nonstandard. 11. All plans for standardizing equipment were submitted to the Polish Committee on Standardization (Polski Komitet Normalizacyjny - PKN), which was subordinate to the Office of the Council of Ministers (Urząd Rady Ministrów).

Most of the equipment used in the Polish gas industry was manufactured in Poland. Most of the high pressure gas compressors, however, were imported from East Germany, Czechoslovakia [redacted] and many measuring and reducing apparatus were imported [redacted] 50X1-HUM

4. Gas in Polish Industry

a. Consumers of Gas

There were 25 large consumers 2. of gas in Poland that used more than 1000 cu m per hour each. Collectively they used about 1,584,000,000 cu m per year. About 70 percent of all gas was used in industry and about 30 percent in homes and to light cities.

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The largest consumers of gas were the chemical, food, and steel producing industries. Several of the plants in these industries were entirely dependent on gas either as raw material or for heat energy; production at these plants would come to a standstill if their gas supply were cut off.

In general, gas was not used in Poland to produce electric power; however, it is important to note that most of the boilers in thermoelectric stations throughout Poland were capable of using either coal or gas to produce electric power. On Saturdays and Sundays, when other enterprises were not working, the extra gas was sent to thermoelectric stations, where it was burned in boilers to produce steam.

About 95 percent of the steel mills in Poland used gas, and only 5 percent used electric power. The reason for this was that there was a shortage of electric power, and there was an abundance of coal in Poland, which made it cheaper to manufacture coal gas than to produce electric power.

b. Production of Gas

Poland produced 200,000,000 cu m of natural gas per year. More than four-fifths (160,000,000 to 180,000,000 cu m) was transported by the pipelines subordinate to the Tarnow District Gasworks. The remainder was distributed by local city gasworks. This gas was used locally for small factories, homes, and lighting cities and did not enter the national pipeline system.

Poland produced about 2,800,000,000 cu m of coal gas per year. About 1,300,000,000 cu m of this gas went into the pipeline system for distribution to consumers throughout the country, and 1,300,000,000 cu m was used by coke plants in the production of the gas. The remaining 200,000,000 cu m was distributed by the city gasworks for use in small factories, homes and lighting cities.

(1) Possibility of Increasing Gas Production

All gas pipelines in Poland operated under a certain pressure, which was called the "working pressure," and was measured in atmospheres. There was still another pressure, called "test pressure," also measured in atmospheres. For pipelines with 10 or less atmospheres of working pressure, the test pressure was the working pressure plus 50 percent; the test pressure for pipelines with more than 10 atmospheres of working pressure was the working pressure plus 5 atmospheres. It would have been possible to increase the production of gas by operating under the test pressure but impractical because all compressors and reducing apparatus would have had to be changed. This procedure would only be followed in an emergency.

This would require much work, time, and money. Also it would be dangerous to operate under the test pressure because of the possibility of an explosion. The atmospheres of pressure for the major natural gas pipelines varied from 6 to 40 atmospheres; for major coal gas pipelines, they varied from 0.8 to 36 atmospheres.

(2) Import of Natural Gas

Poland imported about 170,000,000 to 180,000,000 cu m of natural gas (methane) per year from the USSR. There was a shortage of natural gas in Poland because two natural gas occurrences were lost when the Polish-Soviet border was moved westward in 1945. One was in BORYSLAW (BORISLAW, USSR) and the other was in DASZAWA (DASHAVA, USSR). Poland was to increase its import of natural gas from the USSR to 350,000,000 cu m per year when the State Enterprise for the Construction of Gas Equipment finished building a new compressor station, presently under construction in ZURAWICA and scheduled for completion in 1959. The international pipe-

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line ran from DASZAWA (DASHAVA, USSR) to PRZEMYSŁ, Poland (see Annex B). A natural gas occurrence was discovered near LUBACZOW during autumn 1958. This new occurrence was to be ready for exploitation in 1959 and was to complement the present amount of natural gas by about 200,000,000 cu m per year. 12.

(3) Export of Gas

Poland exported 100,000,000 to 130,000,000 cu m of coal gas to East Germany in 1958 and about the same amount in 1957. The gas was transported by means of the international pipeline which ran from ZGORZELEC, Poland to GÖRLITZ, East Germany. Almost all coal gas produced in Poland was used by consumers or exported to East Germany.

c. Gas Storage

Little gas was stored in Poland; almost all was used. There was, however, about 1,000,000 cu m of gas stored in gas holders. Ninety percent of it was coal gas, to be used in case of a slow-up in gas production. However, because of the small quantity of coal gas at each storage point, it would last only a few hours. The remaining 10 percent was natural gas, also used whenever additional gas was needed in the pipeline system. There was also an underground natural gas storage reservoir in Poland, near ROSTOKI, whose capacity [redacted] as many million cubic meters (exact capacity was unknown). 13. The gas stored in this reservoir, however, was not included in the 1,000,000 cu m of gas stored in Poland, previously mentioned. This reservoir stored about 15,000,000 cu m during the summer months when there was a smaller demand for gas by consumers, but this gas went into the pipeline system during the winter when the demand was greatest. Natural gas from the two natural gas occurrences in ZABLOTCE and STARACHOCINA was pumped into the reservoir, where it was kept until the winter months and then used. 50X1-HUM

d. Political Influence in the Gas Industry

No influence on the gas industry from the Soviet government or any other government was felt below the MPC. [redacted] some influence, however, by the Soviet government was felt in the MPC and higher. [redacted]

Four coal gasworks at WALBRZYCH sent 5000 to 7000 cu m of coal gas per hour to GÖRLITZ, East Germany, and one coal gas works in ZGORZELEC, Poland, sent 3000 to 5000 cu m of coal gas per hour to GÖRLITZ. Poland could have used this gas herself because there was a shortage of gas in that area. [redacted] 50X1-HUM

[redacted] Poland had been ordered by the USSR to send this gas to GÖRLITZ because there was a railroad car manufacturing plant in that city which produced gondola-type railroad cars for the USSR. Also the plant in GÖRLITZ was the largest consumer of gas in the area. [redacted] 50X1-HUM

e. Gas Industry and the Military

The gas industry was very important to the nation's military program, because many plants that manufactured military equipment, such as tanks, planes, and weapons, used gas. If these plants were without gas, there would be a serious decrease in the production of military equipment.

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5. Plans for Development of Nationwide Gas Industry

As of April 1959, there were about 1000 km of major coal gas pipelines in Poland which were operational and about 100 km of major coal gas pipelines under construction. About 265 km of major coal gas pipelines were planned (see Annexes D and E). 15.

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[redacted] there were approximately 1500 km of major natural gas pipelines in operation and about 100 km of major natural gas pipelines under construction (see Annex C).

In addition to the above-mentioned pipelines, there were also many major natural gas pipelines planned in the LUBACZOW area, but the routes had not been determined as of April 1959. After natural gas was discovered in Poland near LUBACZOW, many pipelines were scheduled to be laid in that area. The first major natural gas pipeline section from the gas occurrence in LUBACZOW to JAROSLAW, where it was to join the gas pipeline network, was supposed to be finished in 1959. This section was to be 45 km long; the internal diameter of the pipeline was to be 400 mm.

The second major natural gas pipeline section, from JAROSLAW to RZESZOW, was supposed to be finished in the last part of 1959. This section was to be 55 km long; the internal diameter of the pipeline was to be 400 mm.

The third major natural gas pipeline section, from DABROWA TARNOWSKA to TARNOW, was also scheduled to be finished in 1959. This section was to be 25 km long; the internal diameter of the line was to be 250 mm.

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These pipelines were very important for industry, especially for the chemical industry. [redacted]

There was another plan to lay a major natural gas pipeline from PIOTRKOW to WARSAW. Work was to begin on this project in 1960 and it was to be finished by 1961. [redacted] this pipeline would also be finished according to plan unless unforeseen difficulties were encountered. This pipeline would be very important because it would be the closing section of a ring uniting CZESTOCHOWA and WARSAW. In this way if anything happened to the line at any point along the ring, the closest valves on the major pipeline could be closed on both sides of the troubled area, thereby isolating the damaged point and allowing normal gas usage at any other point along the line. 50X1-HUM

There was also a plan to construct a major coal gas pipeline from ZDZIESZOWICE to WROCLAW. [redacted]

[redacted] this project would not be accomplished because there was already a lack of gas in this area and it would be impractical to lay this pipeline until more coke plants were built. 50X1-HUM

6. Factors Affecting Morale

In most other fields of industry workers were paid better than in the gas industry. Because of low pay, workers could not afford to rent suitable quarters, and living conditions were bad. In the field, workers were often provided with temporary barracks buildings in which to live. They lacked comfort, utilities, and sanitation. [redacted] 50X1-HUM

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Working conditions were also bad because of the system of assigning norms to workers. These norms were very high and very difficult to fulfill. Workers who did not fulfill their norms were paid the lowest wages allowable under the law. This system, however, was often circumvented by foremen who gave workers credit for more work than they actually did so they could get the maximum wages. This was done in spite of the fact that it was against the law. Foremen had been sent to jail for padding work accomplishments.

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7. Evaluation of the Polish Gas Industry

Poland was the fifth largest producer of gas in Europe.

after the USSR

Poland was the fifth largest consumer of gas, also in that order.

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In the quality of equipment, Poland was fourth, the USSR leading. In the amount of coal used as raw material in the production of gas, Source thought that Poland was fourth, after the USSR.

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7. [] quality of engineers was also a problem in the gas industry in Poland. Generally speaking, engineers trained since World War II in this field, were not considered as good as the older engineers. Engineers for the gas industry were trained at the Gliwice Polytechnic (Polytechnika W Gliwicach), in GLIWICE. Minimum requirements for entry into the polytechnic were completion of 11 years of basic schooling, and a satisfactory score on a pre-entrance examination. The engineering course of studies at the polytechnic lasted for 5 years; graduates were given master engineering degrees.

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9. The Poles had a method of removing the naphthalene from the pipes, but it was very expensive and not one hundred percent effective. Tetraline, imported from East Germany, was pumped into the gas lines in a gaseous state. It combined with the coal gas forming a liquid that dissolved the naphthalene. This liquid mixture was caught in the traps and pumped out onto the ground. The real answer to this problem was a better purifying system in the coke plants for more efficient removal of naphthalene before the gas went into the pipelines, but there were no funds available for such a costly program.

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12. According to geological calculations made in 1958, it was estimated that natural gas reserves for all Poland were from 3,500,000,000 to 5,000,000,000 cu m. These figures included the natural gas occurrence discovered near LUBACZOW in 1958. Before the discovery, natural gas reserves for the whole country were estimated to be 1,500,000,000 cu m. These calculations were made by the State Enterprise for Geological Exploration Work. []

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13. This natural gas reservoir is a cavity under the earth's surface. The gas stored in it during the summer months was estimated to be only a small fraction of its capacity. Its actual capacity has never been determined.

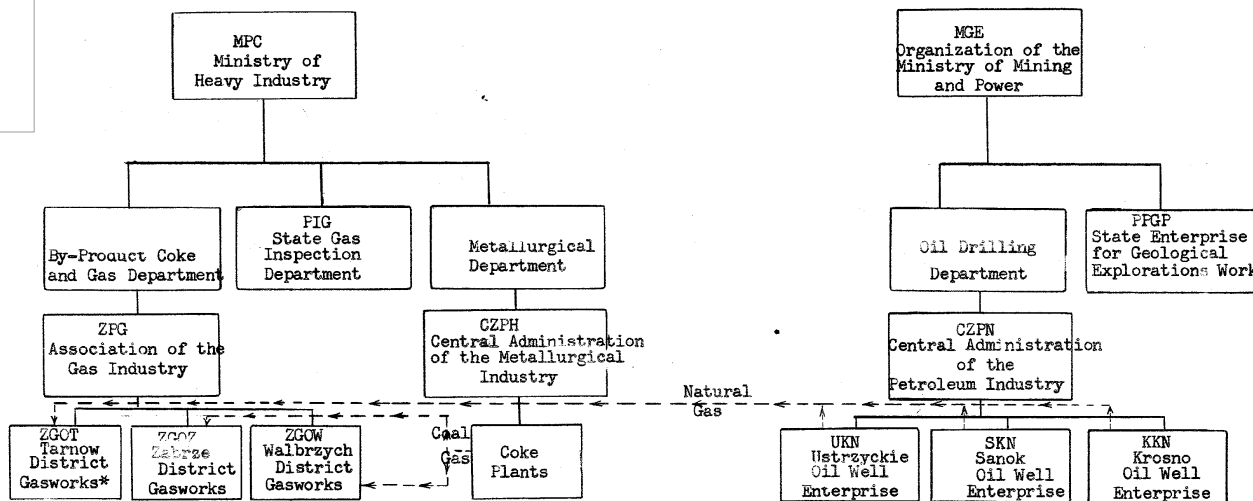
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Annex A

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CHART SHOWING RELATIONSHIP BETWEEN THE CZPH AND ZFG AND CZPN IN POLAND



* In addition to receiving natural gas from the oil well enterprises, this gasworks also imported gas from the USSR.

Note: Dotted line indicates the organizations from which coal and natural gas were purchased by the individual gasworks.

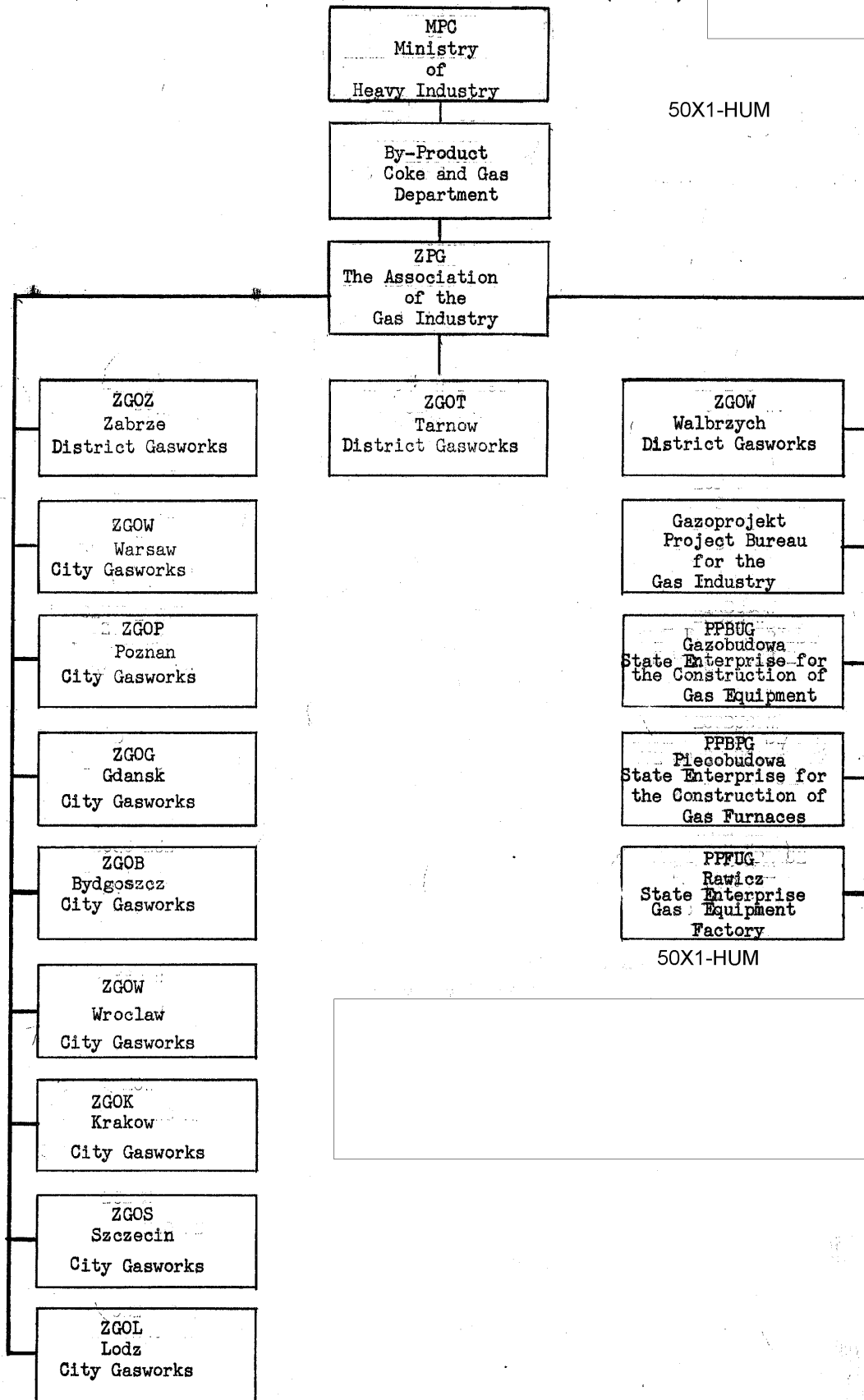
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Annex A-1

ORGANIZATION OF THE BY-PRODUCT COKE AND GAS DEPARTMENT (POLAND)

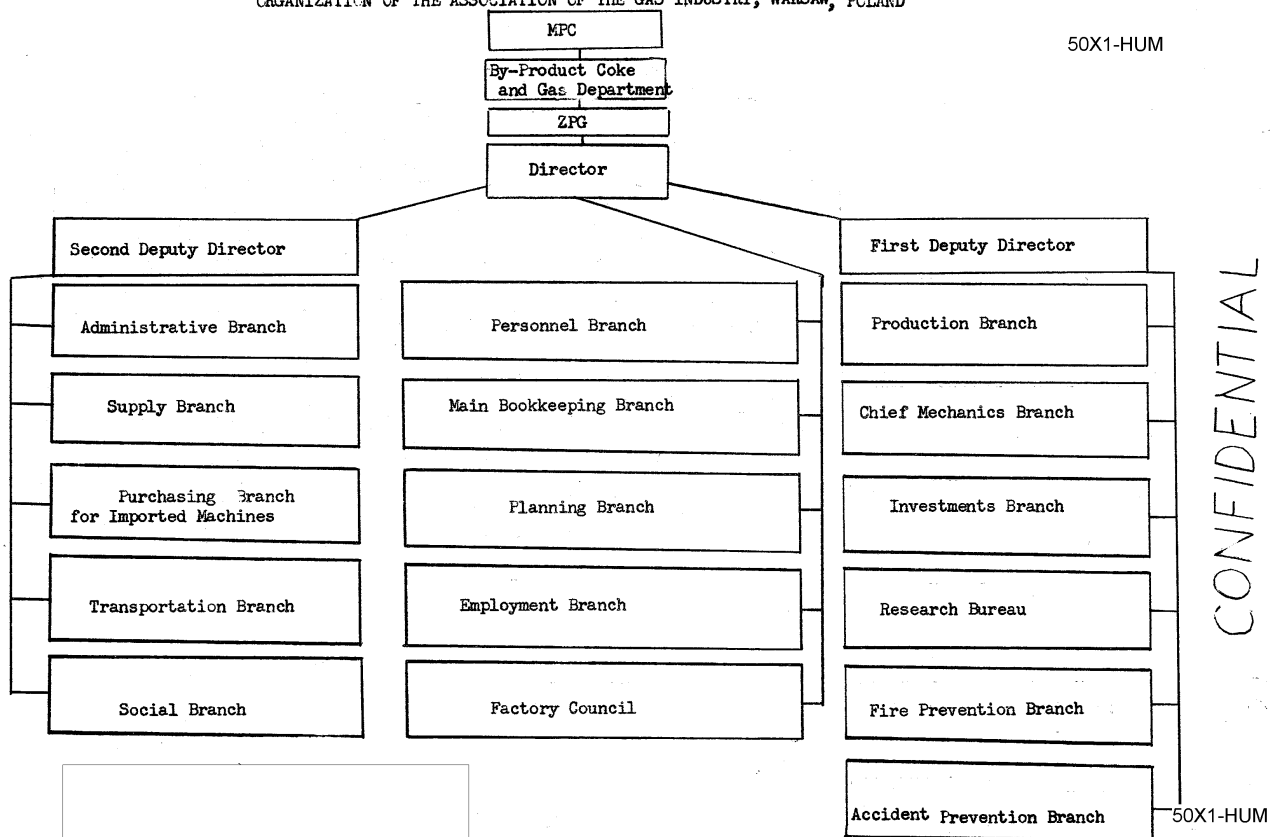
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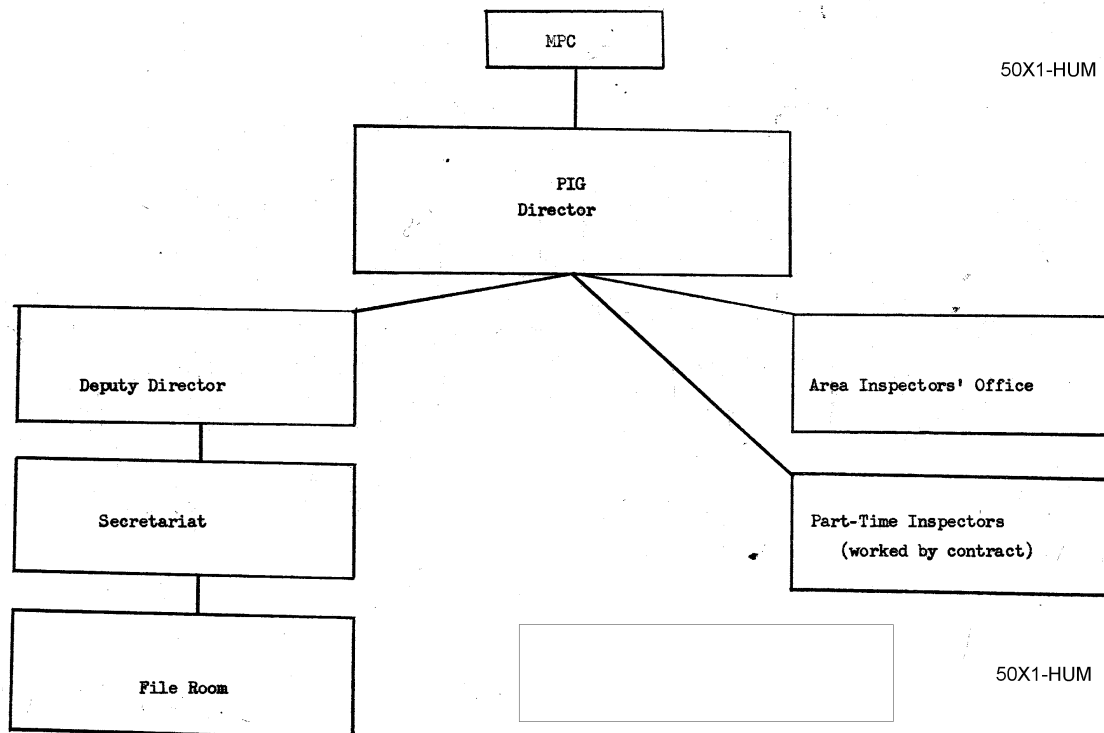
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Annex A-2
ORGANIZATION OF THE ASSOCIATION OF THE GAS INDUSTRY, WARSAW, POLAND



Annex A-3
ORGANIZATION OF THE STATE GAS INSPECTION DEPARTMENT (PCLAND)



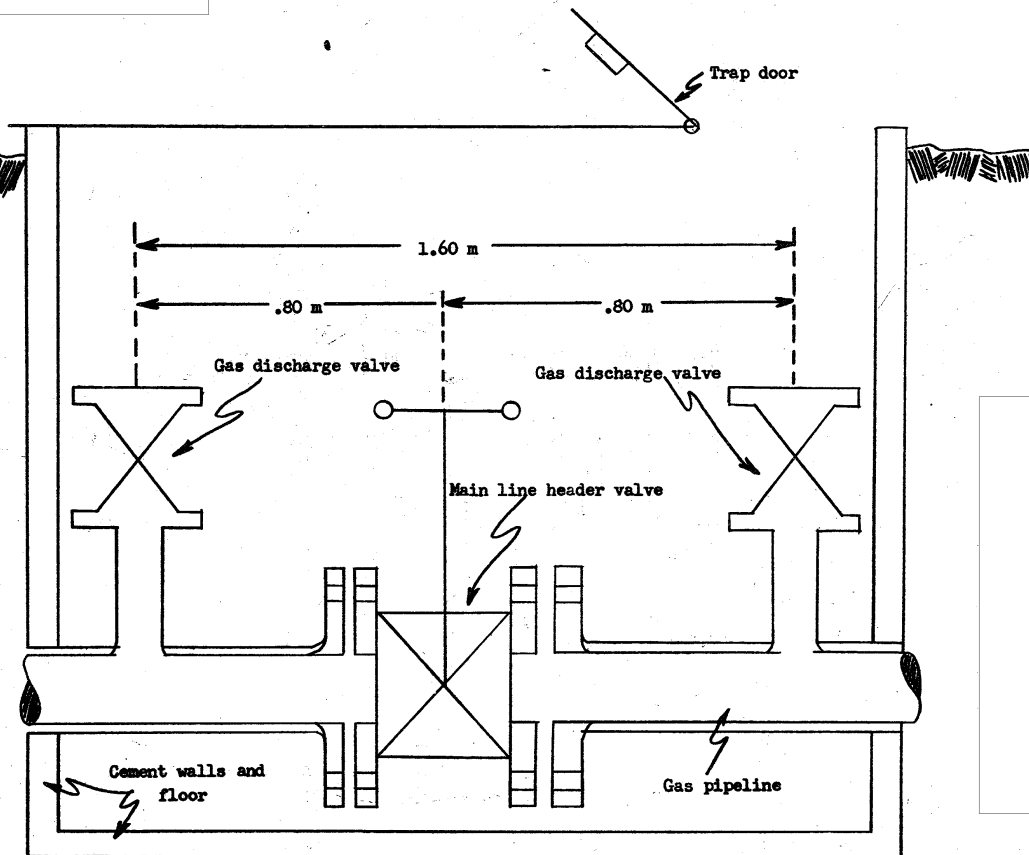
Annex F

SKETCH OF THE VALVES ON A NATURAL GAS PIPELINE (POLAND)

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ANNEX "C"

MAJOR NATURAL GAS PIPELINES SUBORDINATE TO THE TARNOW DISTRICT GAS WORKS (POLAND)

POLSKA
RZECZPOSPOLITA LUDOWA
MAP OF POLAND

SCALE
1:1,000,000

LEGEND: \varnothing - Internal diameter of pipeline in mm

UC - Under Construction

P - Planned

Δ - Natural gas deposits

O - Marks points of interest (as defined in accompanying IAU report)

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ANNEX "D"

MAJOR COAL GAS PIPELINES SUBORDINATE TO THE ZABRZE DISTRICT GAS WORKS (POLAND)

SDX1-HUM

WARSZAWA

ELBLAG

PIET

OSTROLEKA

23°
53°

POZNAN

TLUMAK

BRZESZ

DDR

51°
14°

LUBLIN

ODZIESZ

KATOWICE

SUCHA

KATOWICE

LEZNO

USSR

USSR
USSR
USSR

POLSKA
RZECZPOSPOLITA LUDOWA
MAP OF POLAND

SCALE
Podziałka 1:1,000,000

LEGEND: Ø - Internal diameter of pipeline in mm

"UC" - Under Construction

"P" - Planned

△ - Natural gas deposits

○ - Marks points of interest (fully identified in forthcoming AIU report)

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ANNEX "E"

MAJOR COAL GAS PIPELINES SUBORDINATE TO THE WALBRZYCH DISTRICT
GAS WORKS (POLAND)

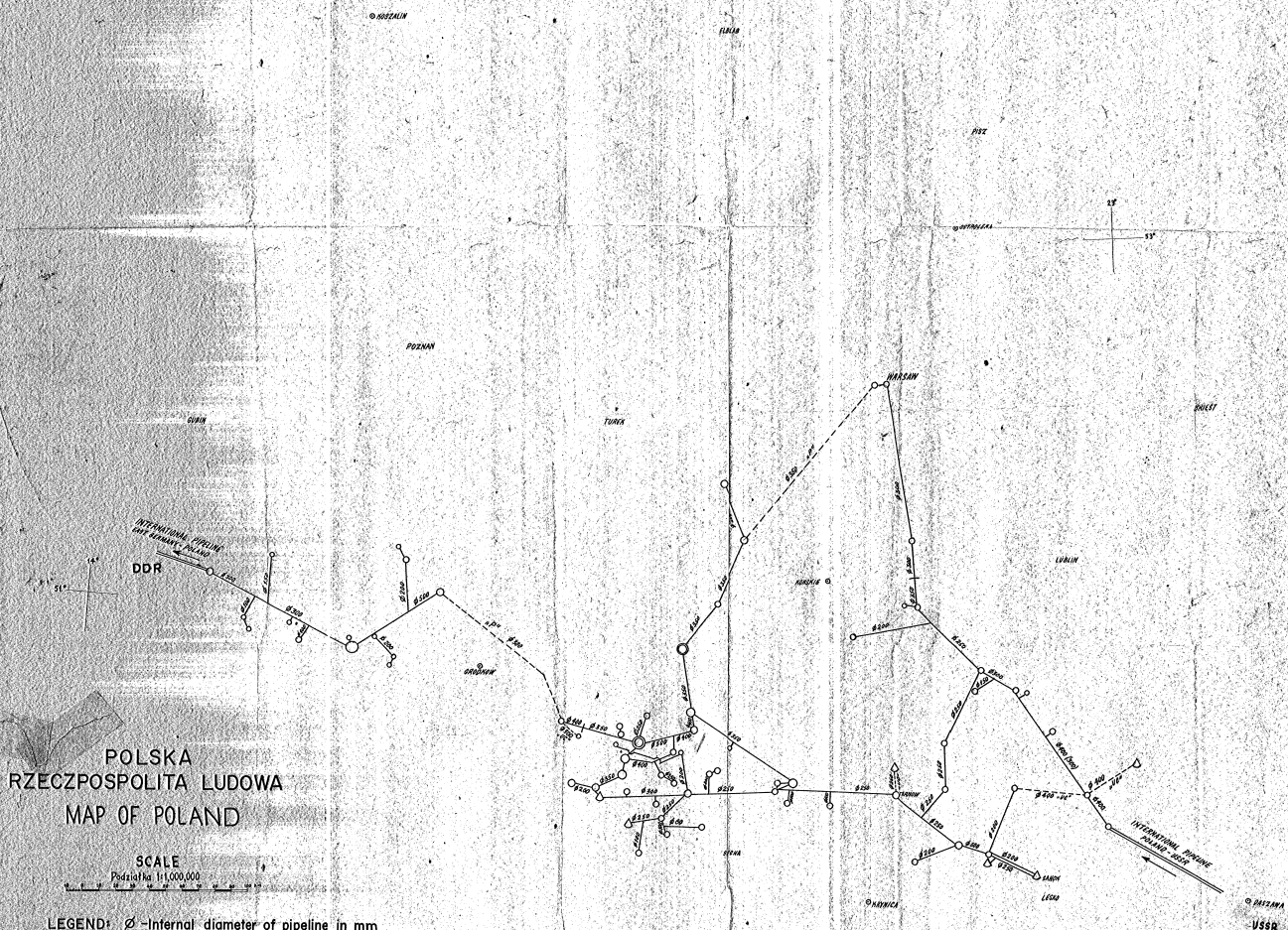


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CONFIDENTIAL **ANNEX "B"** **MAJOR GAS PIPELINES IN POLAND**

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